LAND USE CONTROL IMPLEMENTATION PLAN
ENVIRONMENTAL HEALTH FACILITY, SWMU 79
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
KENNEDY SPACE CENTER

FACILITY: Environmental Health Facility
Solid Waste Management Unit No. 79
CONTAMINANTS: Vinyl Chloride Contamination In Groundwater
CONTROL: Prohibit Groundwater Use

PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the Environmental Health Facility (EHF) of institutional controls that have been implemented at the site[1]. Although there are no current unacceptable risks to human health or the environment associated with the EHF, institutional land use controls (LUCs) are necessary to prohibit the use of groundwater from the site. Controls will include periodic inspection, condition certification and agency notification.

WHY LAND USE CONTROLS ARE NEEDED

Human health and ecological risk assessments were completed as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). The chemical of concern identified for human health risk during the RFI that exceeded the Florida Department of Environmental Protection (FDEP) cleanup target level is vinyl chloride in groundwater.

SITE DESCRIPTION

The main facility building L7-1557, was constructed in 1966. From 1966 to 1982, the building was utilized as the Central Instrumentation Facility (CIF). While operated as the CIF, the building was used for housing of computers and some maintenance activities. The main building was also equipped with an ionization detection system. Since 1982, the central office of Environmental Health (EH) Services has occupied the building. EH comprises Industrial Hygiene, Environmental Compliance/Public Health (EC&PH), and Health Physics. The EHF site also includes three numbered structures that were constructed between 1966 and 1985; the main building, L7-1557, an equipment storage shed, L7-1557C, and the asbestos lab, L7-1557D. The asbestos laboratory and Industrial Hygiene equipment storage building, L7-1557D, was constructed in 1985 and is located to the northeast of the main building. The structure is divided equally, with one side being used as an asbestos identification laboratory and the other side as an equipment storage area. A boiler was formerly housed on the western side of the building but was removed in 1985, and the area was converted to an EC&PH labora-

[1] *This LUCIP summarizes institutional controls regarding the EHF. For detailed information on the site, consult the EHF administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.*

tory and storage area. An equipment storage shed, L7-1557C, was originally constructed in 1967 as a shelter for backup electrical generators. The generators were removed in 1983, and the building has since been used for equipment storage. Adjacent to the storage shed on the southeastern side is an electrical transformer pad. where the original transformers were installed in 1966 to support the facility. The transformers were replaced in the early 1980s. Adjacent to the storage shed on the northwestern side, is the former location of a 1,500-gallon diesel underground storage tank (UST). The tank may have been used to support the boiler formerly located in the EC&PH lab area and/or the backup generators located in L7-1557C. The tank has not been used since the removal of the backup generators in 1983. An abandoned cooling tower is located on the northwestern side of the main building adjacent to the abandoned acid storage tank. A Domestic Treatment Plant (DTP) septic system and drain field were formerly located in the southwestern corner of the site. The original drain field was replaced in the late 1980s. The facility was then connected to the Industrial Area sanitary sewer system in 1999, and the septic tank and drain field were removed. In 1986 five communication antennas were installed and are located to the northeast of the current facility buildings. Southeast and northwest of these antennas are two other concrete structures. These concrete structures are believed to have supported two previous communication antennas. Approximately 1,200 feet to the southeast of the main building are two additional antennas, a former antenna pad, and two small buildings.

SITE LOCATION

The EHF is located on the northern portion of Merritt Island, between the Indian and Banana Rivers in Brevard County, Florida. The EHFDL is south of the Space Station Processing Facility on the eastern site of E Avenue, in the KSC Industrial Area. The EHF is found in Section 5, Township 23S, Range 37E, as seen on the 7.5-minute Orsino topographic quadrangle map (USGS 1986). The groundwater use control area covered by the LUCIP is shown on Figure 2. Coordinates of the corners of the LUC are provided in the State Plane Coordinate System NAD 1983 meters, Florida East.

SITE CONTAMINATION AND CONTROL

Groundwater at the site contains vinyl chloride above FDEP's groundwater cleanup target levels. A Preliminary Risk Evaluation showed that assuming future use of groundwater for drinking water, cancer and non-cancer risks would be unacceptable. The estimated excess lifetime cancer risk for the hypothetical future resident was determined to be 8.9×10^{-5} which exceeds FDEP's acceptable level of 1×10^{-6} in a million. However, there is no current use of site groundwater and therefore no exposure or current risk. The past, current and projected future land use of the EHF is industrial in nature. LUCs are therefore required to prohibit residential use of groundwater at the site and to prohibit residential use/exposure to soils. Indoor air quality shall be evaluated prior to any construction within the groundwater use control area.

DECISION DOCUMENT

A Statement of Basis (SB) establishes institutional controls as a component of the remedy for the site. The SB for the site, KSC document number KSC-TA-7911, is available for review by contacting the KSC

Environmental Program Office at telephone number (321) 867-8411.

IMPLEMENTATION

Institutional controls will be implemented by the KSC Environmental Program Office in accordance with their RCRA permit and a Land Use Control Assurance Plan included in a Memorandum of Agreement (MOA)[2] between NASA, FDEP, and EPA, effective February 23, 2001. Upon approval of this LUCIP, it will be incorporated into the permit by reference. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA.

KSC's Environmental Program Office will provide KSC's Master Planning Office with survey coordinates of the LUCs. Restrictions will specify limitations on development and reuse for the area for as long as LUCs are necessary to protect human health and the environment.

MONITORING

Quarterly inspections to monitor that the institutional controls specified herein are in place and operating will be conducted by KSC's Environmental Program Office. The inspection will verify that no residential exposure to site soils or groundwater use is occurring.

REPORTING

KSC's Environmental Program Office will submit annual reports to EPA and FDEP certifying retention of the implemented LUCs.

ENFORCEMENT

KSC's Environmental Program Office will be responsible for stopping any activities at KSC that are not compliant with this LUCIP.

MAINTENANCE

The LUCIP shall remain in place until a land use change is implemented and the concerns managed by the LUCIP are mitigated; or there is a discovery, based upon analytical evidence, that scenarios managed by the LUCIP are no longer a concern. Any change in LUC management must be approved by the EPA and FDEP and implemented by modification of NASA's operating permit.

[2] *By separate MOA effective February 23, 2001, with the EPA and FDEP, KSC, on behalf of NASA, agreed to implement Center-wide, certain periodic site inspections, condition certification, and agency notification procedures designed to ensure the maintenance by Center personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Center's substantial good faith compliance with the procedures called for herein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.*

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by NASA KSC, EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Center's substantial good faith compliance with the specific LUC maintenance commitments reflected herein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

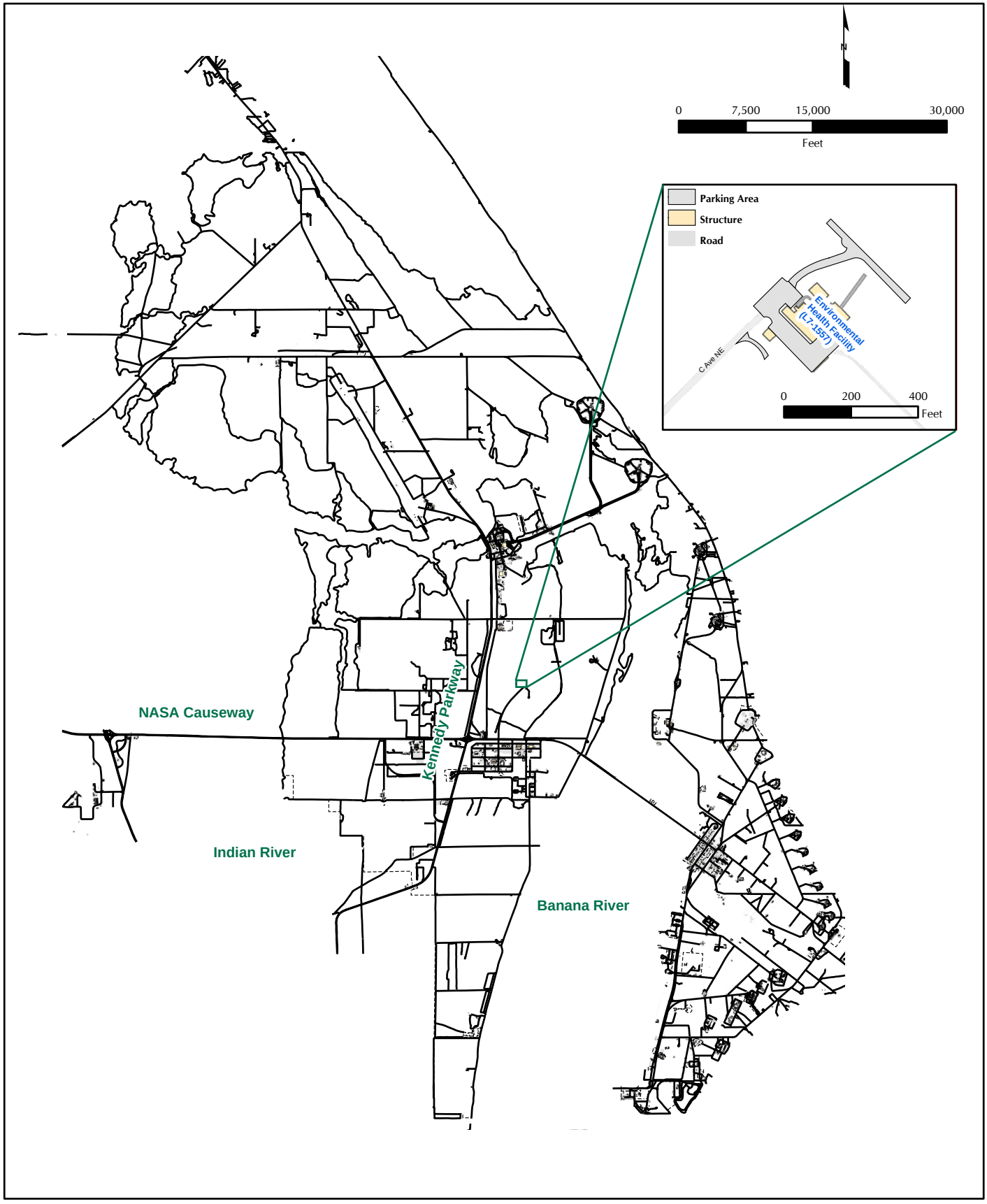
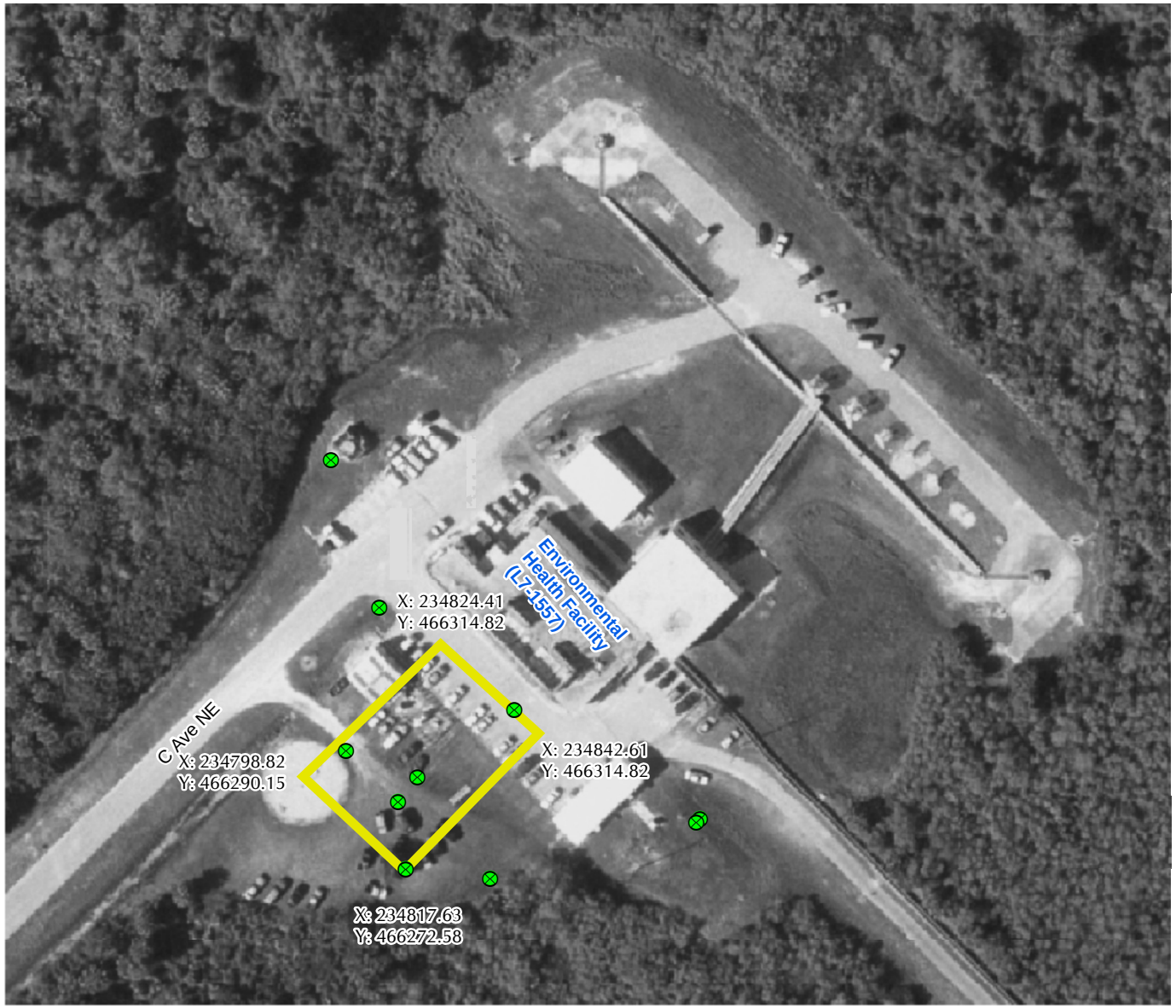


Figure 1
Location Map
Environmental Health Facility (EHF; SWMU 79)



Survey coordinates are in US State Plane Coordinate System NAD 1983, Florida East, Meters.

Figure 2
Site Map
Environmental Health Facility (EHF; SWMU 79)